

CLAIMS

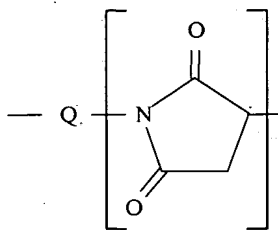
1. A modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

2. The modified pigment product of claim 1, wherein Alk represents an alkenyl or alkyl group containing 60-100 carbons.

3. The modified pigment product of claim 1, wherein Alk represents a polymer of butene.

4. The modified pigment product of claim 1, wherein Alk represents a polymer or oligomer of isobutene, butene, or propene.

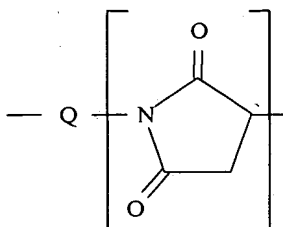
5. The modified pigment product of claim 1, wherein Sp is a succinimidyl group having the formula:



wherein Q represents a bond or a $-SO_2C_2H_4(NR'Alkylene)_p-$ group, wherein the group Alkylene is a linear or branched C_1-C_{12} alkylene group, R' is independently hydrogen, a C_1-C_6 alkyl group, or an $(AlkyleneNR)_pR$ group, and p is an integer from 0-10, and R, which can be the same or different, represents hydrogen or a substituted or unsubstituted aryl or alkyl group.

6. The modified pigment product of claim 1, wherein the organic group represented by the formula $-X-Sp-Alk$ is a polyisobutenylsuccinimidylphenyl.

7. The modified pigment product of claim 5, wherein Q is a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{C}_2\text{H}_4)_p-$ group, R' is independently hydrogen or a $(\text{C}_2\text{H}_4\text{NH})_p\text{H}$ group, and p is an integer from 1-10.
8. The modified pigment product of claim 5, wherein Q is a bond.
9. The modified pigment product of claim 1, wherein X is an arylene group.
10. A dispersion composition comprising a non-aqueous solvent and at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-\text{X}-\text{Sp}-\text{Alk}$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.
11. The dispersion composition of claim 10, wherein Alk represents an alkenyl or alkyl group containing 60-100 carbon atoms.
12. The dispersion composition of claim 10, wherein Alk represents a polymer of butene.
13. The dispersion composition of claim 10, wherein Alk represents a polymer or oligomer of isobutene, butene, or propene.
14. The dispersion composition of claim 10, wherein Sp is a succinimidyl group having the formula:



wherein Q represents a bond or a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{Alkylene})_p-$ group, wherein the group Alkylene is a linear or branched $\text{C}_1\text{-C}_{12}$ alkylene group, R' is independently hydrogen, a $\text{C}_1\text{-C}_6$

alkyl group, or an (AlkyleneNR)_pR group, and p is an integer from 0-10, and R, which can be the same or different, represents hydrogen or a substituted or unsubstituted aryl or alkyl group.

15. The dispersion composition of claim 10, wherein the organic group represented by the formula -X-Sp-Alk is a polyisobutenylsuccinimidylphenyl.

16. The dispersion composition of claim 14, wherein Q is a -SO₂C₂H₄(NR'C₂H₄)_p- group, R' is independently hydrogen or a (C₂H₄NH)_pH group, and p is an integer from 1-10.

17. The dispersion composition of claim 14, wherein Q is a bond.

18. The dispersion composition of claim 10, wherein the non-aqueous solvent is an aromatic or an aliphatic hydrocarbon solvent.

19. A printing plate comprising: a) a substrate and b) a radiation-absorptive layer, wherein the radiation-absorptive layer comprises at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula -X-Sp-Alk, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

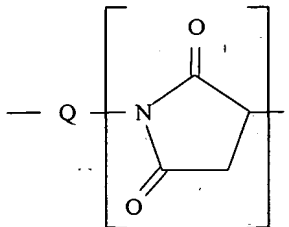
20. The printing plate of claim 19, wherein the radiation-absorptive layer further comprises a polymer.

21. The printing plate of claim 19, wherein Alk represents an alkenyl or alkyl group containing 60-100 carbon atoms.

22. The printing plate of claim 19, wherein Alk represents a polymer of butene.

23. The printing plate of claim 19, wherein Alk represents a polymer or oligomer of isobutene, butene, or propene and maleic anhydride or derivatives thereof.

24. The printing plate of claim 19, wherein Sp is a succinimidyl group having the formula:



wherein Q represents a bond or a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{Alkylene})_p-$ group, wherein the group Alkylene is a linear or branched $\text{C}_1\text{-C}_{12}$ alkylene group, R' is independently hydrogen, a $\text{C}_1\text{-C}_6$ alkyl group, or an $(\text{AlkyleneNR})_p\text{R}$ group, and p is an integer from 0-10, and R, which can be the same or different, represents hydrogen or a substituted or unsubstituted aryl or alkyl group.

25. The printing plate of claim 19, wherein the organic group represented by the formula -X-Sp-Alk is a polyisobutenylsuccinimidylphenyl.

26. The printing plate of claim 24, wherein Q is a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{C}_2\text{H}_4)_p-$ group, R' is independently hydrogen or a $(\text{C}_2\text{H}_4\text{NH})_p\text{H}$ group, and p is an integer from 1-10.

27. The printing plate of claim 24, wherein Q is a bond.

28. The printing plate of claim 19, wherein the substrate is a hydrophilic metal substrate.

29. The printing plate of claim 19, wherein the substrate is aluminum or polyester.

30. The printing plate of claim 19, wherein the polymer is selected from the group of styrene-acrylate polymers, styrene-butadiene copolymers, and acrylic polymers.

31. A method of imaging the printing plate of claim 19, comprising selectively exposing the plate to a laser output in a pattern representing an image to selectively remove or chemically modify at least the radiation-absorptive layer defining the pattern.

32. The method of claim 31, further comprising subjecting the plate to a solvent capable of removing portions of the imaged layer(s) defining the pattern.

33. A flexographic printing plate comprising: a) a substrate, b) a UV curable layer, and c) a radiation-absorptive layer, wherein the radiation-absorptive layer comprises at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

34. The flexographic printing plate of claim 33, wherein the radiation-absorptive layer further comprises a polymer.

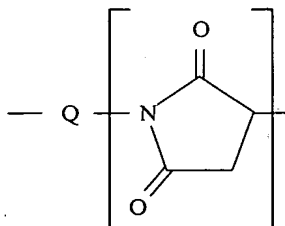
35. A thermal transfer recording material comprising: a) an ink layer, b) a photothermal layer, and c) a support, wherein the photothermal layer comprises at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

36. The thermal transfer recording material of claim 35, wherein the photothermal layer further comprises a polymer.

37. A proofing material comprising: a) a radiation transparent support, b) a radiation curable layer, and c) a receiving layer, wherein the radiation curable layer comprises at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

38. The proofing material of claim 37, wherein the radiation curable layer further comprises a polymer.

39. A black matrix formed by applying a photosensitive coating on a clear substrate, exposing the coating imagewise, and developing and drying the coating, wherein the photosensitive coating comprises a solvent and at least one modified pigment product comprising a pigment having attached at least one organic group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.
40. The black matrix of claim 39 further comprising a photosensitive resin.
41. An electrophoretic display comprising an arrangement of microcapsules, wherein the microcapsules comprise a dielectric fluid and at least one modified pigment product comprising a pigment having attached at least one organic group comprising a group represented by the formula $-X-Sp-Alk$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene group, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.
42. The electrophoretic display of claim 41, wherein Alk represents an alkenyl or alkyl group containing 60-100 carbon atoms.
43. The electrophoretic display of claim 41, wherein Alk represents a polymer of butene.
44. The electrophoretic display of claim 41, wherein Alk represents a polymer or oligomer of isobutene, butene, or propene and maleic anhydride or derivatives thereof.
45. The electrophoretic display of claim 41, wherein Sp is a succinimidyl group having the formula:



wherein Q represents a bond or a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{Alkylene})_p-$ group, wherein the group Alkylene is a linear or branched $\text{C}_1\text{-C}_{12}$ alkylene group, R' is independently hydrogen, a $\text{C}_1\text{-C}_6$ alkyl group, or an $(\text{AlkyleneNR})_p\text{R}$ group, and p is an integer from 0-10, and R, which can be the same or different, represents hydrogen or a substituted or unsubstituted aryl or alkyl group.

46. The electrophoretic display of claim 41, wherein the organic group represented by the formula $-\text{X-Sp-Alk}$ is a polyisobutenylsuccinimidylphenyl.

47. The electrophoretic display of claim 45, wherein Q is a $-\text{SO}_2\text{C}_2\text{H}_4(\text{NR}'\text{C}_2\text{H}_4)_p-$ group, R' is independently hydrogen or a $(\text{C}_2\text{H}_4\text{NH})_p\text{H}$ group, and p is an integer from 1-10.

48. The electrophoretic display of claim 45, wherein Q is a bond.

49. A non-aqueous inkjet ink composition comprising a non-aqueous vehicle and a modified pigment product comprising a pigment having attached at least one organic group comprising a group represented by the formula $-\text{X-Sp-Alk}$, wherein X, which is directly attached to the pigment, represents an arylene, heteroarylene, or alkylene group, Sp represents a spacer group, and Alk represents an alkenyl or alkyl group containing 50-200 carbon atoms.

50. The inkjet ink composition of claim 49, wherein the non-aqueous vehicle is a liquid vehicle.

51. The inkjet ink composition of claim 49, wherein the non-aqueous vehicle is a solid vehicle.

52. The use of the modified pigment product of claim 1 in a non-aqueous coating composition.

53. The use of the modified pigment product of claim 1 in a polymer composition.

54. The use of the modified pigment product of claim 1 in a non-aqueous ink composition.

55. The use of the modified pigment product of claim 1 in a toner composition.

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